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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/730,637	12/06/2000	Nandu Gopalakrishnan	7-6-10-57-7-8	9470

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EXAMINER

JUNG, MIN

ART UNIT PAPER NUMBER

2663

DATE MAILED: 07/09/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/730,637

Applicant(s)

GOPALAKRISHNAN ET AL.

Examiner

Min Jung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In all the claims, it is not clear where in the communication system the inventive method is implemented. The claims as recited are unduly broad as to cover more than what the inventors have invented. Note, that the actual invention is limited to an environment in which the rate determination method performed at a mobile station using the available power and number of channel information received from a base station.

Further, it is not clear whether the "identifying" steps actually mean active step of determining/selecting, or more passive step of detecting/identifying (possibly by monitoring).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tiedemann, Jr. et al., US 5,914,950 (Tiedemann).

Tiedemann discloses method and apparatus for reverse link rate scheduling. Tiedemann teaches rate determination by performing the steps of identifying a maximum communication rate based on an amount of transmit power available for communication (col. 9, lines 27-41 and col. 10, lines 13-18) and identifying a communication rate based on a received signal quality (col. 11, lines 62-64, col. 12, lines 35-39, col. 13, lines 33-43). Also, see col. 16, lines 3-11. Therefore, Tiedemann determines a maximum rate based on the transmit power available, and for actual communication, a rate at or below that of maximum rate is selected based in part on interference or supportability of the transmission. Tiedemann fails to specifically teach "a set of possible communication rates". What Tiedemann does instead is setting a maximum communication rate. By setting a maximum communication rate, he inherently teaches other possible rates at or below that of the maximum rate. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to specifically identify a set of possible rates which are at or below the maximum rate when implementing the method and apparatus of Tiedemann, to provide a discrete database of rates for more readily available selection of a rate.

5. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chung et al., US 6,731,618 (Chung) in view of Tiedemann.

Chung discloses a coding scheme for multi-user communication. Specifically, Chung teaches a method for determining communication rates by performing the step of

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identifying a set of possible communication rates based on a number of available Walsh codes (col. 7, lines 32-38, and lines 52-56). Chung teaches that when only $\frac{1}{4}$ of code space (the total number of Walsh codes) of total availability is utilized, the data rate is decreased to $\frac{1}{4}$ (col. 7, lines 32-38), and also that the rate can be calculated by using an equation which is based in part on the fraction of the code space used (col. 7, lines 52-56). The set of possible communication rates would read on the different rates shown on the tables 1-5. Chung, however, does not specifically teach identifying a communication rate based on a received signal quality. Tiedemann, as described above for claim 1, teaches adjusting the communication rate (selecting a lower rate) when to maintain the interference at an acceptable level (col. 12, lines 32-39), or when the link capacity does not support the current transmission rate (implying signal quality deterioration) (col. 13, lines 33-43). Both Chung reference and the Tiedemann reference are related to data rate scheduling in CDMA system. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to incorporate the rate determination step based on the signal quality as taught by Tiedemann when implementing the teaching of Chung in order to provide an added feature when performing the rate selection.

Regarding claims 4 and 5, the method also bases the identification step on an amount of transmit power available. Chung further teaches that the data rate determination step also uses the power level information along with the code space information. See col. 7, lines 33-38.

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Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Black et al. patent, the Lee et al. patent, the Wan et al. patent, the Fischer et al. patent, the Manning et al. patent, and the Allpress et al. patent, are cited for further references.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Min Jung whose telephone number is 703-305-4363. The examiner can normally be reached on Monday-Friday, 7AM-3PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 703-308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJ
June 28, 2004


Min Jung
Primary Examiner